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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/648,749

Filing Date: August 25, 2003

Appellant(s): IDICULA ET AL.

Christian A. Nicholes
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 12/24/2008 appealing from the Office action mailed 07/25/2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relyed Upon

2003/0120665	FOX	3-2002
6,636,845 B2	CHAU	1-2002
2002/0007363	VAITZBLIT	5-2001

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 – 4, 6, 9, 12, 14 – 16, 18 – 21, 23, 26, and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Fox et al. (Fox hereinafter) (US Patent Pub. App. No. 2003/0120665 A1, filed: March 22, 2002).

Regarding Claim 1, Fox discloses a method of evolving an Extensible Markup Language (XML) Schema (Page 3, [0061], lines 1 – 4, Fox), the method comprising: receiving, at a schema evolver that is executing in a computer system, a document that indicates one or more changes to be made to a first XML schema (Fig. 4, Page 3 and 4, [0061] and [0071], lines 1 – 4 and 1 – 5, receiving a schema, the schema including at least one primary data structure; respectively, Fox¹); based on said first XML schema and said document, said schema evolver generating a second XML schema (Page 4 and 8, [0072] and [0149], lines 24 – 27 and 10 – 13; respectively, Fox); and based on said second XML schema, generating one or more first Structured Query Language (SQL) statements (Page 6, [0128], lines 1 – 3, Fox).

Regarding Claim 2, Fox discloses a method, wherein said first SQL statements, when executed, cause one or more database object types to be created (Page 48, [0455], lines 6 – 9, Fox).

Regarding Claim 3, Fox discloses a method, wherein said first SQL statements, when executed, cause one or more database object tables to be created (Page 16, [0253], lines 1 – 4, Fox).

¹ Examiner interprets the schema transformation generator (taught in Fox's disclosure, Page 4, [0072], lines 1 – 3, Fox) as the schema evolver.

Regarding Claim 4, Fox discloses a method, wherein said first SQL statements, when executed, cause one or more database object types to be deleted (Page 56, [0502], lines 7 – 10, deletion, Fox²).

Regarding Claim 6, Fox discloses a method, wherein said first SQL statements, when executed, cause one or more database object types to be altered (Page 56, [0502] and [0504], lines 9 – 10 and 1 – 2, object y is changed; respectively, Fox).

Regarding Claim 9, Fox discloses a method, wherein said one or more changes are expressed as one or more instances of one or more XML types specified by a third XML schema (Fig. 11A, Page 11, [0200], lines 1 – 5, Fox³).

Regarding Claim 12, Fox discloses a method of generating Structured Query Language (SQL) statements to alter database types in a database system that has definition data that defines a set of one or more database object types, the method comprising:

receiving a first Extensible Markup Language (XML) schema (Fig. 4, Page 3, [0061], lines 1 – 4, receiving a schema, Fox); and

² Wherein deletion of an object implies deletion of an object type.

³ Fox's disclosure teaches transformations from one schema to the other (Fig. 11A, Page 11, [0200], lines 1 – 5, Fox), and includes different schemas, including a third schema (Fig. 4, Data Schema #3, Fox). Examiner interprets that if the changes are expressed in a first and/ or second schema, then the changes will also be expressed in a third schema.

based on said first XML schema, generating one or more SQL statements that, when executed, cause a database server to alter said set of one or more database object types (Page 59, [0529], lines 8 – 11, Fox);

wherein said one or more database object types were generated based on a second XML schema that differs from said first XML schema (Page 3 and 48, [0052] and [0453], lines 2 – 7 and 8 – 11; respectively, Fox⁴).

Regarding Claim 14, Fox discloses a method, wherein said first XML schema was generated based on said second XML schema (Page 56, [0502], lines 9 – 10, Fox⁵).

Regarding Claim 15, Fox discloses a method, wherein said one or more SQL statements, when executed, cause said database server to create one or more of said one or more database object types (Page 48, [0455], lines 6 – 9, Fox).

Regarding Claim 16, Fox discloses a method, wherein said one or more SQL statements, when executed, cause said database server to delete one or more of said one or more database object types (Page 56, [0502], lines 7 – 10, deletion, Fox⁶).

Regarding Claim 18, Fox discloses a computer-readable medium carrying one or more sequences of instructions which, when executed by one or more processors,

⁴ Wherein target is the second XML schema, and data type VARCHAR2 is the database object type.

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causes the one or more processors to perform the method recited in claim 1 (see Fox's citation included in claim 1 above, and Page 47, [0449], lines 4 – 7, Fox).

Regarding Claim 19, Fox discloses a computer-readable medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in claim 2 (Page 48, [0455], lines 6 – 9, Fox).

Regarding Claim 20, Fox discloses a computer-readable medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in claim 3 (Page 16, [0253], lines 1 – 4, Fox).

Regarding Claim 21, Fox discloses a computer-readable medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in claim 4 (Page 56, [0502], lines 7 – 10, deletion, Fox⁷).

Regarding Claim 23, Fox discloses a computer-readable medium carrying one or more sequences of instructions which, when executed by one or more processors,

⁵ Examiner interprets the objects as the XML schemas.

⁶ Wherein deletion of an object implies deletion of an object type.

⁷ Wherein deletion of an object implies deletion of an object type.

causes the one or more processors to perform the method recited in claim 6 (Page 56, [0502] and [0504], lines 9 – 10 and 1 – 2, object y is changed; respectively, Fox).

Regarding Claim 26, Fox discloses a computer-readable medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in claim 9 (Page 5, [0086], lines 1 – 4, Fox⁸).

Regarding Claim 29, Fox discloses a computer-readable medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in claim 12 (see citation included in claim 12 above).

Regarding Claim 31, Fox discloses a computer-readable medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in claim 14 (Page 56, [0502], lines 9 – 10, Fox⁹).

Regarding Claim 32, Fox discloses a computer-readable medium carrying one or more sequences of instructions which, when executed by one or more processors,

⁸ Fox's disclosure teaches transformations from one schema to the other (Page 5, [0086], lines 1 – 4, Fox), and includes different schemas, including a third schema (Fig. 4, Data Schema #3, Fox). Examiner interprets that if the changes are expressed in a first and/ or second schema, then the changes will also be expressed in a third schema.

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causes the one or more processors to perform the method recited in claim 15 (Page 48, [0455], lines 6 – 9, Fox).

Regarding Claim 33, Fox discloses a computer-readable medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in claim 16 (Page 56, [0502], lines 7 – 10, deletion, Fox¹⁰).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

⁹ Examiner interprets the objects as the XML schemas.

Claim 5, 7 – 8, 22, and 24 – 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fox et al. (Fox hereinafter) (US Patent Pub. App. No. 2003/0120665 A1, filed: March 22, 2002) in view of Chau et al. (Chau hereinafter) (US Patent No. 6,636,845 B2, filed: January 31, 2002).

Regarding Claim 5, Fox discloses all the limitations as disclosed above including SQL tables related to XML schema information. However, Fox is silent about deleting tables. On the other hand, Chau discloses a system and method for generating XML documents including deleting database tables (Page 27, lines 36 – 38, Chau). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Chau's teachings to Fox's system. Skilled artisan would have been motivated to do so, as suggested by Chau (Col. 2, lines 54 – 57, Chau), in order to decompose an XML document and store the decomposed data into a relational database.

Regarding Claim 7, the combination of Fox in view of Chau discloses a method, wherein said first SQL statements, when executed, cause one or more database object tables to be altered (Fig. 4, item 410, Col. 34, lines 40 – 42, Chau).

¹⁰ Wherein deletion of an object implies deletion of an object type.

Regarding Claim 8, the combination of Fox in view of Chau discloses a method, wherein said first SQL statements, when executed, cause one or more database object instances to be altered (Fig. 4, item 406, Col. 34, lines 33 – 37, Chau¹¹).

Regarding Claim 22, the combination of Fox in view of Chau discloses a computer-readable medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in claim 5 (see citation included in claim 5 above).

Regarding Claim 24, the combination of Fox in view of Chau discloses a computer-readable medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in claim 7 (Fig. 4, item 410, Col. 34, lines 40 – 42, Chau).

Regarding Claim 25, the combination of Fox in view of Chau discloses a computer-readable medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in claim 8 (Fig. 4, item 406, Col. 34, lines 33 – 37, Chau¹²).

¹¹ Examiner interprets column as a database object instance.

¹² Examiner interprets column as a database object instance.

Claim 10 – 11, and 27 – 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fox et al. (Fox hereinafter) (US Patent Pub. App. No. 2003/0120665 A1, filed: March 22, 2002) in view of Vaitzblit (Vaitzblit hereinafter) (US Patent Application Pub. No. 2002/0007363 A1, filed: May 21, 2001).

Regarding Claim 10, Fox discloses all the limitations as disclosed above including SQL statements. However, Fox is silent about reversing SQL statements. On the other hand, Vaitzblit discloses a system and method for generating SQL statements that cause other SQL statements to be reversed (Page 4, [0036], lines 13 – 19, Vaitzblit). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Vaitzblit's teachings to the Fox's system. Skilled artisan would have been motivated to do so, as suggested by Vaitzblit (Page 1, [0007], lines 13 – 16, Vaitzblit), to provide store and roll forward methods that allow recovery of fine-grained objects, such as an individual row within table. In addition, Vaitzblit's teachings belong to the same field of SQL and database management systems.

Regarding Claim 11, the combination of Fox in view of Vaitzblit discloses a method, further comprising:

determining, while executing said one or more first SQL statements, whether an error has occurred (Page 2, [0020], lines 3 – 4 and 10 – 11, Vaitzblit); and

in response to determining that an error has occurred, executing one or more of said one or more second SQL statements that, when executed, cause effects of said

one or more first SQL statements that have been executed to be reversed (Page 2 and 4, [0021] and [0036], lines 9 – 10 and 13 – 19; respectively, Vaitzblit).

Regarding Claim 27, the combination of Fox in view of Vaitzblit discloses a computer-readable medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in claim 10 (see citation included in claim 10 above).

Regarding Claim 28, the combination of Fox in view of Vaitzblit discloses a computer-readable medium carrying one or more sequences of instructions which, when executed by one or more processors, causes the one or more processors to perform the method recited in claim 11 (see citation included in claim 11 above).

(10) Response to Argument

- 1. Claims 1 – 4, 6, 18 – 21, and 23 stand rejected under 35 USC § 102(e) as being anticipated, allegedly, by U. S. Patent Application Publication No. 2003/0120665 (“Fox”).**

Appellant argues that; “Fox does not disclose, teach, or suggest that a schema evolver generates an evolved XML schema based on both (a) an existing XML schema and (b) a document that indicates changes that are to be made to the existing XML

schema, as required by Claim 1" and that; "Fox does not generate the second schema based on the first schema and the 'transformation'".

Examiner respectfully disagrees. First, in response to appellant's argument that the references fail to show certain features of appellant's invention, it is noted that the features upon which appellant relies (i.e., "an evolved XML schema" and "an existing XML schema") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim should not be read into the claim. *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily). *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). See also *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow.... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed.... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and

unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.”).

Second, as stated in the Final Office Action dated July 25, 2008, Fox does disclose the claimed limitation of: based on said first XML schema and said document, said schema evolver generating a second XML schema (Page 4 and 8, [0072] and [0149], lines 24 – 27 and 10 – 13, “...a transformation generator for generating a transformation from the first schema into the second schema, using the first and second primary mappings and the first and second relationships...” and “...uses the interrelationships to determine suitable XSLT script for transforming documents generating documents conforming to the target XML schema from documents conforming to the source XML schema.”; respectively, Fox). Wherein Fox’s first schema corresponds to the first schema claimed; Fox’s second schema corresponds to the second schema claimed; and wherein the transformation generator corresponds to the evolver claimed.

Additionally, Fox further discloses more details with respect to this limitation specifically discloses: the document that indicates one or more changes to be made to the first XML schema (Page 11, [0206], “...in FIG. 11O is a request to derive a transformation from a source data schema, namely, the imported SwissAir XML schema to a target data schema, namely, the imported British Airways XML schema. Shown in FIG. 11P is an XSLT script generated to transform XML documents conforming to the SwissAir schema to XML documents conforming to the British Airways schema FIG. 11Q shows a specific transformation of a SwissAir XML document to a British Airways

XML document, obtained by applying the derived XSLT script from FIG. 11P. Finally, FIG. 11R shows a display of the newly generated British Airways XML document with specific flights and passengers." Fox). As shown by the passage, Fox again discloses: based on said first XML schema ("the imported SwissAir XML schema", Fox) and said document ("an XSLT script", Fox) generating a second XML schema ("the imported British Airways XML schema", Fox). To further clarify, the Examiner interprets that generating a transformation of a second schema implies generating a second schema as claimed. Wherein as shown by Fox, such XSLT script indicates changes that are to be made to the existing XML schema (Page 54, [0482], "within that bloc insert code appropriate to the cardinality restrictions of that element, exactly as above for sequence blocs, including the creation of new templates if needed."); wherein creating new templates includes changes as claimed, Fox).

2. Claims 12, 15 – 16, 32, and 33 stand rejected under 35 USC § 102(e) as being anticipated, allegedly, by Fox.

Appellant argues that; "Fox does not disclose, teach, or suggest 'wherein said one or more database object types were generated based on a second XML schema that differs from said first XML schema' as recited in Claim 12".

Examiner respectfully disagrees. Fox does disclose wherein said one or more database object types were generated based on a second XML schema that differs from said first XML schema (Page 48, [0453], lines 1 – 11, "For example, if the given table column has data type VARCHAR2 then the choice of properties may only include

properties with target type string, or compositions of properties whereby the final property in the composition has target type string.", Fox). Wherein the target corresponds to the second XML schema claimed; and wherein the data type VARCHAR2 corresponds to the database object type claimed. Fox discloses in detailed the step of generating one or more database object types (Page 48, [0455], lines 6 – 9, Fox). Additionally, Fox discloses how the target, as mentioned in this office action, corresponds to a target data schema (Page 3, [0052], lines 2 – 7, Fox). Additionally, and to further clarify, the Examiner notes that Fox further provides details and examples regarding this limitation (Page 47, [0442], "Based on Tables CXXIX and CXXX, an XSLT transformation that maps XML documents that conform to the source schema to corresponding documents that conform **to the first target schema** is given by:", and also 3rd line of the code shows that this is an the target/second xml schema: "<xsl:output method="xml" version="1.0" encoding="UTF-8" indent="yes"/>", and further 22nd line of the code shows generating such database object types: "<xsl:call-template name="generate_officer"> "; wherein the code generates office which is further assign to template name, wherein name corresponds to an object and template corresponds to the database object type, Fox).

3. Claims 14, and 31 stand rejected under 35 USC § 102(e) as being anticipated, allegedly, by Fox.

Appellant argues that; "Fox does not disclose, teach, or suggest 'wherein said first XML schema was generated based on said second XML schema' as recited in

Claim 14" by specifically relying on the argument that the paragraph pointed out by the Examiner; "does not indicate that these objects are different XML schemas or that these objects were generated based on different XML schemas" and that; "it does not follow from this well known fact that an evolved XML schema must be generated based on an existing XML schema".

Examiner respectfully disagrees. Further, Examiner notes that appellant's arguments rely on that the features upon which appellant relies (i.e., "an evolved XML schema"; "an existing XML schema"; and "...different XML schemas...") are not recited in the rejected claim(s) 14 and 31.

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

4. Claims 9, and 26 stand rejected under 35 USC § 102(e) as being anticipated, allegedly, by Fox.

Appellant argues that the applied art "does not disclose, teach, or suggest that the changes that are to be made to one XML schema ... are expressed as instance of XML types... that are specified by another XML...".

Examiner respectfully disagrees. First, in response to appellant's argument that the references fail to show certain features of appellant's invention, it is noted that the specific wording upon which appellant relies (i.e., "specified by another XML...") are not recited in the rejected claim(s).

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Second, the applied art Fox does disclose the claimed limitation of: said one or more changes are expressed as one or more instances of one or more XML types specified by a third XML schema (Fig. 11A, Page 11, [0200], lines 1 – 5, Fox). Fox's disclosure teaches transformations from one schema to the other (Fig. 11A, Page 11, [0200], lines 1 – 5, Fox), and includes different schemas, including a third schema (Fig. 4, Data Schema #3, Fox). Examiner interprets that if the changes are expressed in a first and/or second schema, then the changes will also be expressed in a third schema.

5. Claims 5, 7 – 8, 22, and 24 – 25 stand rejected under 35 USC § 103(a) as being unpatentable, allegedly, over Fox in view of U.S. Patent No. 6,636,845 (“Chau”).

Appellant's arguments directed towards the rejection of claims 5, 7 – 8, 22, and 24 – 25 reiterate deficiencies Appellant feels were made in the rejection of the independent claims, and do not address any new points. Therefore, the examiner submits that if the rejection of the independent claims is deemed proper, the rejection of claims 5, 7 – 8, 22, and 24 – 25 should be upheld.

6. Claims 10, 11, 27, and 28 stand rejected under 35 USC § 103(a) as being unpatentable, allegedly, over Fox in view of U.S. Patent Application Publication No. 2002/0007363 (“Vaitzblitz”).

Appellant's arguments directed towards the rejection of claims 10, 11, 27, and 28 reiterate deficiencies Appellant feels were made in the rejection of the independent claims, and do not address any new points. Therefore, the examiner submits that if the rejection of the independent claims is deemed proper, the rejection of claims 10, 11, 27, and 28 should be upheld.

7. Claims 4 and 21 stand rejected under 35 USC § 102(e) as being anticipated, allegedly, over Fox.

Appellant argues that the applied art fails to disclose; "wherein said first SQL statement, when executed, cause one or more database object types to be deleted".

Examiner respectfully disagrees. Fox discloses a method, wherein said first SQL statements, when executed, cause one or more database object types to be deleted (Page 56, [0506], and [0502], lines 7- 10, "Preferably, components are implemented as objects that can send and receive Messages to and from other objects. Thus, for example, an indirect property P.sub.2OP.sub.1 and an indirect inheritance (C, D) are implemented as their own objects. Direct dependencies among the objects are indicated by in FIG. 27 by directed edges within the dependency graph. If a first object depends on a second object either through a direct (single edge) or indirect (multiple edge) dependency, then modification or deletion of the second object potentially impacts the first object. For example, referring to FIG. 27, a constraint depends directly on an indirect property, and a mapping depends indirectly on an indirect property," deletion; wherein deletion of an object implies deletion of an object type; FOX).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

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Respectfully submitted,

/Giovanna Colan/

Examiner, Art Unit 2162

Conferees:

/John Breene/

Supervisory Patent Examiner, Art Unit 2162

/Hosain T Alam/

Supervisory Patent Examiner, Art Unit 2166